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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A spin-valve transistor comprising :
an emitter $[(E)]$,
a base $[(B)]$,
and a collector $[(C)]$, wherein
the emitter $[(E)]$ being made of a semiconductor material, the base comprising three successive metal layers, the first layer $[(F1)]$ and the third layer $[(F2)]$ being ferromagnetic, the second layer $[(N)]$ not being ferromagnetic, the interface between the emitter $[(E)]$ and the layers of the base $[(B)]$ forming a Schottky diode, ~~characterized in that~~ wherein the collector $[(C)]$ is metallic and separated from the base $[(B)]$ by a thin insulating layer $[(I)]$ of approximately a few nanometers, said layer forming a tunnel-effect barrier between the base $[(B)]$ and said collector $[(C)]$.
2. (currently amended): The spin-valve transistor as claimed in claim 1, ~~characterized in that~~ wherein the insulating layer $[(I)]$ presents a lower-level potential barrier than the potential barrier of the Schottky diode existing between the emitter $[(E)]$ and the base $[(B)]$.
3. (currently amended): The spin-valve transistor as claimed in claim 2, ~~characterized in that~~ wherein the insulating layer $[(I)]$ is made of tantalum oxide or of zinc sulfide or of zirconium oxide or of a rare earth oxide such as yttrium oxide.
4. (currently amended): The spin-valve transistor as claimed in claim 1, ~~characterized in that~~ wherein the insulating layer $[(I)]$ has a thickness of approximately between 1 and 4 nanometers.

5. (currently amended): The spin-valve transistor as claimed in claim 1, ~~characterized in that~~ wherein the emitter $[(E)]$ comprises at least one layer of semiconductor material and the collector $[(C)]$ at least a first layer of metallic material.

6. (currently amended): The spin-valve transistor as claimed in claim 4, ~~characterized in that~~ wherein the layer of semiconductor material of the emitter $[(E)]$ comprises at least a second layer of metallic material $[(A)]$.

7. (currently amended): The spin-valve transistor as claimed in claim $[[s]]$ 4 ~~and 5~~, ~~characterized in that~~ wherein electrical connection means (C_E , C_B and C_C) are implanted on the level of the first layer of metallic material, on the level of the second layer of metallic material and of any one of the layers ($F1$, N , $F2$) of the base, said connection means being used to apply external voltages and currents to the transistor.

8. (currently amended): The spin-valve transistor as claimed in claim 1, ~~characterized in that~~ wherein the electrical voltage applied between the emitter $[(E)]$ and the base $[(B)]$ via the connection means $[(C_E)]$ and $[(C_B)]$ is greater than the potential barrier of the insulating layer $[(I)]$.

9. (new): The spin-valve transistor as claimed in claim 5, wherein electrical connection means are implanted on the level of the first layer of metallic material, on the level of the second layer of metallic material and of any one of the layers of the base, said connection means being used to apply external voltages and currents to the transistor.